

GAATTCCGGGTGGGTAGGTCGGGCAGGGTAGGACAGGCCTAACAGAGAGAGGCCGGACAGACCTCC
TTTGGAAAGCAGCCACTTCTGGTCCCCATCCCTGGAGCGATCGAGGCCAGGATCTGCTGTCCCCT
GGGACAGCAGATCTCTCTTCCAGTGACAGCTCTCCTGCCTGTTCCCTGCTTCAGTG
CTCCAGGTGGCCCAACCAGGCCAGGCACCCAGGACCAGGCCCTGTGGACACTTTGGAGCAGT
ACTGCCACAGGACCACAATTGGGATTTCAGGTCCCTACACCTACTGCAACACGACCTTGG
CCAGATCAGGGACCTGCTGCCACAGAGCGCACCCGGAGCCCTAGTAGAGAGACCCTGCCCCGAG
TACTTCAATGGCATCAAGTACAACACGACCCGAATGCCTACAGAGAGTGCCTGGAGAACGGGA
CCTGGGCCTCAAGGGTCAACTACTCACACTGCGAACCCATTGGATGACAAGCAGAGAAAGTA
TGACCTGCATTACCGAATGCCCTCATGTCAACTACCTGGTCACTGTGTTCCGTGGTGGCC
CTGGTGGCCGCTTCCTGCTTTCTAGTGCTGGAGTATCCGCTGCCTGAGGAATGTGATCC
ACTGGAACCTCATCACACCTCATTCTGAGAACATCGCGTGGTCTGCTGCAACTCATCGA
CCACGAAGTGCACGAGGGCAATGAGGTCTGGTCCGCTGCATCACCACATCTCAACTATTT
GTGGTCACCAACTTCTTCTGGATGTTGTGGAGGGCTGCTACCTGCACACGCCATTGTATGA
CGTACTCCACAGAGCACCTGCGCAAGTGGCTTCCCTCATGGATGGTCATTCCCTGCC
TATCATCATCGCCTGGGCAGTTGGCAAACACTACTATGAGAACATGAGCAGTGCTGGTTGGCAAG
GAAGCTGGTATTTGGTGGACTACATCTACCAGGGCCCGTCATGCTTGCTGTTGATCAATT
TTGTATTTCTGTTAACATCGTCAGGATCCTGATGACGAAGTTACGAGCATCCACCACGTCCGA
GACAATCCAATACAGGAAGGCAGTGAAGGCCACGCTGGCCTCCCTCCCCCTGTTGGGCATCACC
TACATGCTCTTCTTGTCAATCCTGGCGAGGACGACCTGTCCCAGATTGTGTTCATCTACTTCA
ACTCTTCCTGCAGTCCTCAGGGTTCTTGTCCTGGCTTTCTACTGCTCTTCAATGGAGA
GGTGCAGCGCCGCGCCCTGAGAAAGCGGTGGCACTCGGGCAGGACCACGCCCTCCGGGTGCCT
GTGCAGCGCCGCGCCATGTCCATCCCTACGTCGCCACCCAGGATCAGCTCCACAGCATCAAGCAGA
CAGCTGCTGTGTGACCCCTGTGACCGTCTGCCCGCAGTCCACCACTGAGGAGCAGCTCTCCAT
CCTTACAGCCTCCCTGGTCCTGCTACCCCTGACCCACAGGTACAAGGTACAGGAGAA
GGGAGGAGAACACTCCC (SEQ ID NO:1)

FIGURE 1

underlined = deleted in targeting construct

[] = sequence flanking Neo insert in targeting construct

GAATTCCGGGTGGTAGGTCGGCAGGGTAGGACAGGCCTAAGAGAGAGGCCGGACAGAC
CTCCTTGGAAAGCAGCCACTCTGGTCCCCTCCCTGGAGCGATCGAGCGCAGGATCTGC
TGTCCCAGGGACAGCAGATCTCTCTCCAGTCAGCACAGCTCTCTCTGCCCTGTTTC
CTGCTTCCAGTGCCTCAGGTGGGCCAACAGGCCAGGCCACAGGCCAGGCCAGGCC
ACACTTTGGAGCAGTACTGCCACAGGACACAATTGGAATTTCAGGTCCCTACACC
TACTGCAACACGACCTGGACAGATGGGACCTGCTGGCCACAGAGCGCACCCGGAGCC
CTAGTAGAGAGAGCCGTGCCCGAGTACTTCATGGCATCAAGTACAACAGAC [GGAA
TGCCTACAGAGAGTCCTGGA] GAACGGGACCTGGGCTCAAGGGTCAACTACTCACACT
GCGAACCCATTGGATGACAAGCAGAGAAAGTATGACCTGCATTACCGAATGCCCTCA
TTGTCAACTACCTGGTCACTGTGTTCCGTGGTGGCCCTGGTG [GCCGCTTCCCTGCTT
TTCCTAGTGCCTGCG] GAGTATCCGCTGCCTGAGGAATGTGATCCACTGGAACCTCATCAC
CACCTTCATTCTGAGAAACATCGCGTGGTCCCTGCTGCAACTCATCGACCACGAAGTGC
CGAGGGCAATGAGGTCTGGTGCCTGCATCACCACCATCTCAACTATTTGTGGTCAC
CAACTCTCTGGATTTGTGGAGGGCTGCTACCTGCACACGGCCATTGTCATGACGTA
CTCCACAGAGCACCTCGCAAGTGGCTTTCTCTTCATTGGATGGTCATTCCCTGCC
TATCATCATCCCTGGGCAAGTGGCAAACACTACTATGAGAATGAGCAGTGCCTGGTTGG
CAAGGAAGCTGGTATTGGTGGACTACATCTACCAGGGCCCCGTCACTGCTTGCTGTT
GATCAATTGTATTCTGTTAACATCGTCAGGATCTGATGACGAAGTTACGAGCATC
CACACGTCCGAGACAATCCAATACAGGAAGGCAGTGAGGGCACGCTGGTCTCTCC
CCTGTTGGCATCACCTACATGCTCTTGTCAATCCTGGCGAGGACGACCTGTCCCA
GATTGTGTCATCTACTCAACTCTTCTGCAGTCCTCCAGGTTCTTGTGTCCTG
TTTCTACTGCTTCTCAATGGAGAGGTGCGCGCGGCCCTGAGAAAGCGGTGGCACTCGGG
GCAGGACCACCACGCCCTCCGGGTGCCTGCGCCGGCCATGTCATCCCTACGTCGCC
CACCAAGGATCAGCTTCCACAGCATCAAGCAGACAGCTGCTGTGACCCCTGTGACCGT
CTGCCCAGTCCACACTGAGGCAGCTCTCCATCTTACAGCCTCCCTGGTCC
TCCTTGCTACCTGACCCACAGGTACAAGGTACAGGAGAAGGGAGGAGAACACTCC
C

FIGURE 2A

Gene Sequence Structure
* 441 bp Sequence Deleted 582 bp

Size of full-length cDNA: 1557 bp



Targeting Vector* (genomic sequence)

Construct Number: 3050

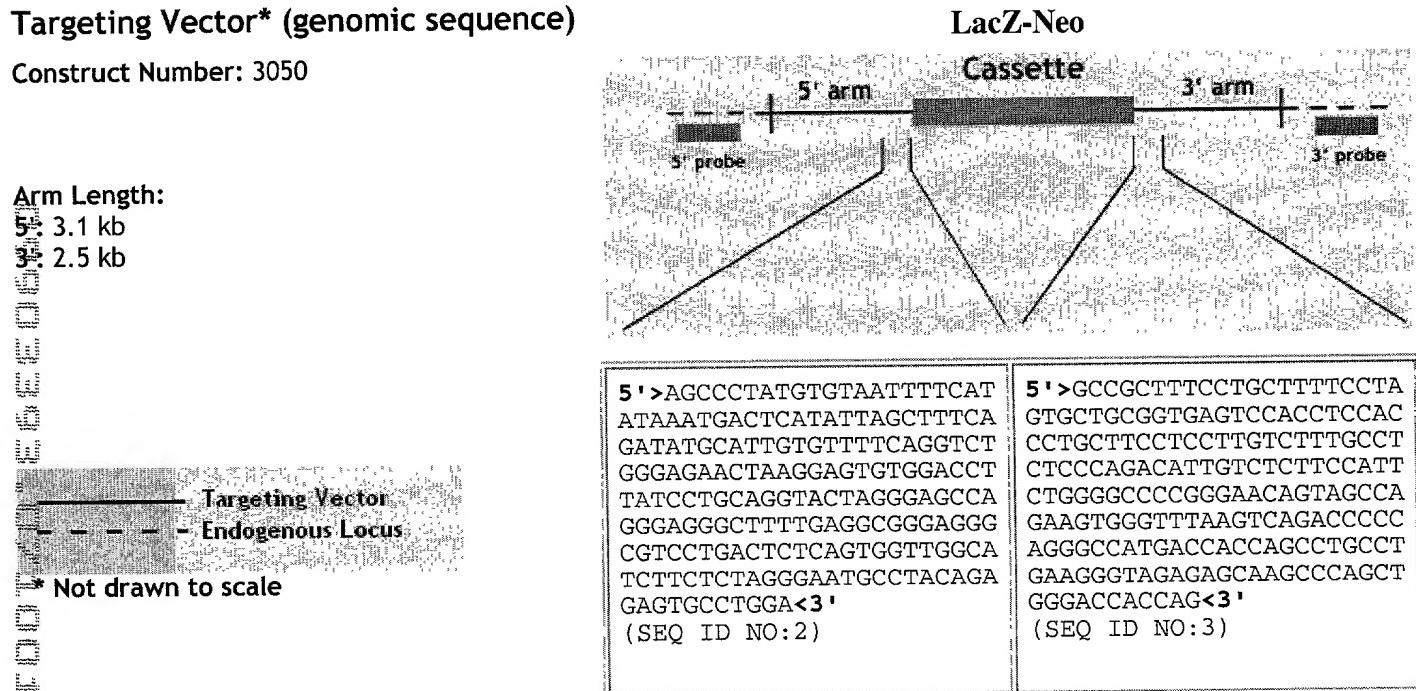
Arm Length:

5': 3.1 kb
3': 2.5 kb

— Targeting Vector
- - - Endogenous Locus

* Not drawn to scale

LacZ-Neo Cassette



5' >AGCCCTATGTGTAATTTCAT
ATAAATGACTCATATTAGCTTCA
GATATGCATTGTGTTTCAGGTCT
GGGAGAACTAAGGAGTGTTGGACCT
TATCCTGCAGGTACTAGGGAGCCA
GGGAGGGCTTTGAGGCCGGGAGGG
CGTCCTGACTCTCAGTGTTGGCA
TCTTCTCTAGGAATGCCTACAGA
GAGTGCCTGGA<3'
(SEQ ID NO:2)

5' >GCCGCTTCCCTGCTTTCTA
GTGCTGCGGTGAGTCCACCTCAC
CCTGCTTCCCTGCTTGCCTTGCCCT
CTCCCAGACATTGTCTCTTCATT
CTGGGGCCCCGGAACAGTAGCCA
GAAGTGGGTTAAGTCAGACCCCC
AGGGCCATGACCACCAGCCTGCCT
GAAGGGTAGAGAGCAAGCCCAGCT
GGGACCAACAG<3'
(SEQ ID NO:3)

FIGURE 2B